Deep Space Network Operations and Maintenance

Commitment Process

Industry Briefing

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National Aeronautics and Space Administration

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Rich Miller/Gary Spradlin
Commitment Process

920 Office Functions and Primary Responsibilities

- The Deep Space Mission Systems (DSMS) Plans and Commitments Program Office is composed of an office manager, a deputy office manager, and four reporting programmatic offices. These offices are:
  - The Future Missions Planning Office
  - The Strategy Development Office
  - The Telecommunications and Mission Services Office
  - The Spectrum Management Office
- Primary Responsibilities:
  - Short-and long-term planning of the Directorate
  - Negotiating commitments to customers and sponsors
  - Acting as the agent to assure customer needs are met in the DSMS portion of IND
  - Providing the JPL Spectrum Management function.

920 Specific Responsibilities Related to Contract Roles

- Partner with missions in the formulation phase to design and document the mission's utilization of DSMS services and the mission-DSMS interfaces in a Memorandum of Agreement (or equivalent). Establish with each mission the appropriate scope (DSMS, GDS, or MOS) of the TMS manager's role.
- Partner with missions in design and development phase to develop and document (in a Detailed Mission Requirements (DMR) or equivalent) their requirements for DSMS services and use of DSMS assets.
- Integrate and harmonize new and current customer needs with DSMS resource availability using all information sources including Resource Allocation Planning (RAP) Services.
- Assure satisfaction of commitments to customer missions by representing the customers in the development and operations phases. Develop and gather appropriate Customer satisfaction metrics.
- Manage RF spectrum planning, frequency assignment, licensing, and interference avoidance for all JPL program and institutional spectrum users.
- Provide planning and technical support to NASA Spectrum Management, especially on the requirement and utilization of spectrum for deep space missions.

Organization

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DEEP SPACE MISSIONS SYSTEM
Plans & Commitments Program Office

Richard B. Miller, Program Manager
Gary L. Spradlin, Deputy Manager

Resource Analysis
Eugene S. Burke (930)

Staff

Charles A. Black, SOMO Staff Engr.
Fred D. McLaughlin, Staff Engr.
Rose V. Nadjarian, Secretary
Ted K. Peng, Technical Staff
Ron A. Slusser, Staff Engr.
E. Diane von Delden, Secretary
Ellen M. Walsh, Program Resource Admiin.
Eve M. Zimmerle, Office Coordinator
Adrian Avalos - APT

Telecommunication & Mission Systems Managers (TMS)

Valery I. Altunin	GRAVITY PROBE-B, GSSR, MEGA, RADIOASTRON-SVLBI, REFERENCE FRAME CALIB., SPACE GEODESY
Rich D. Benson	DEEP IMPACT, NEW HORIZONS, STEREO
Patrick E. Beyer	CHANDRA/AXAF, DAWN, GALILEO MILLENNIUM MISSION, SIRTF, SPACE INTERFEROMETRY MISSION (SIM) (PRE-PROJECT)
Albert F. Chang	ADEOS II, ASTRO-E2, CLUSTER-II, KODAMA, GEOTAIL, LUNAR-A, MUSES-C, NOZOMI/PLANET-B, POLAR, QUICKSAT, SELENE, SOHO, WIND
Daniel Finnerty	MESSENGER
Ron L. Gillette	CASSINI, ERBS, GOES, HST, LANDSAT 5, NOAA K-N, RXTE, TDRSS I, J, TOMS-EP, TRMM, UARS
Dwight P. Holmes	INTEGRAL, MARS EXPRESS/BEAGLE II, ROSETTA
Kathy Moyd	KEPLER, MRO
Peter T. Poon	ODYSSEY, US Mars Telesat/CNES Netlanders, EUROPEAN VLBI NETWORK, GOLDSTONE APPLE VALLEY RADIO TELE, MARS GLOBAL SURVEYOR, PIONEER 10 TECHNOLOGY
Stefan Waldherr	ACE, ACRIMSAT, GENESIS, ST5, IMAGE, JASON, MAP NEW NORCIA, ProSEDS, RADARSAT-S/X BAND, STARDUST, TOPEX/POSEIDON, TRIANA
Byron G. Yetter	MARS EXPLORATION ROVER, ULYSSES, VOYAGER INTERSTELLAR MISSION

Strategy Development
Robert J. Cesarone, Manager

Douglas S. Abraham
Rolf C. Hastrup (311)

Spectrum Management
Farzin Manshadi, JPL Spectrum Manager

Dan A. Bathker, Spectrum Engineer

Future Missions Planning
Warren L. Martin, Manager

Andrew Kwok
Edward Luers

The TMS Managers Role

- TMS Manager is the DSMS primary point of contact for the Projects we support
- The TMS Manager has a “cradle to grave” relationship with Projects
  - Typically assigned to a Project by the beginning of Phase B (can start during proposal phase)
  - Supports the Project through end of mission
- Early on, the TMS Manager works with the Project to evolve a top-level statement of Project requirements and corresponding DSMS commitments (technical and cost) that describe the level of support to be provided to the Project
  - This includes participating in Project design activities and flight-ground trade studies
- The TMS Manager continues to work with the Project to further develop requirements as documented in a Detailed Mission Requirements document (DMR), and works within the DSMS organization to assure Project requirements are translated and integrated into DSMS development plans
- The TMS Manager tracks progress of the evolving support capabilities committed to the Project – detecting and flagging problems, and reporting on progress to the Project
- TMS Managers review development of contractor plans for operations support, monitoring progress, and assessing operational readiness

The Contractors Role in Supporting the TMS Manager Mission Roles

- Track and monitor DSMS implementation support schedules, software & hardware deliveries, and any new capabilities required for mission support
- Insure DSMS operational configurations meet specific mission design and support requirements
- Coordinates support services to Spacecraft assembly (ATLO) testing as planned, Coordinates and provides operations support during compatibility testing (DTF-21 & MIL-71)
- Insure DSMS operational configurations meet project design requirements and system configurations need dates
- Assure DSMS operations training meets: mission specific support requirements, the training needs of the supporting complex personnel, generates training status reports
- Assure all planning and products necessary for the DSMS support of launch and critical events occurs
- Present launch readiness status and Critical Events planning status at a Mission Event Readiness Review
- Update support documentation and station configuration information throughout the mission
- Provides analysis and corrective actions of anomalous network performance

Approved Mission Set: DSN Supports*

LEGACY LEO

- RADARSAT (O)

LEOP**

- GOES N-Q (C)
- NOAA , N, N' (C)
- TDRS J (C)
- PROSEDS (C)
- SOLAR-B (F)

HEO, Lunar, L1 & L2

- CHANDRA (O)
- MAP (O)
- INTEGRAL (O)
- ISTP-GEOTAIL (O)
- ISTP-WIND (O)
- ISTP-SOHO (O)
- ISTP-POLAR (O)
- ACE (O)
- IMAGE (O)
- ISTP-CLUSTER II (O)
- GENESIS (O)
- LUNAR-A (F)
- SELENE (F)
- ST-5 (C)

DEEP SPACE***

- GALILEO (O)
- MARS GLOBAL SURVEYOR (O)
- CASSINI (O)
- NOZOMI (O)
- STARDUST (O)
- 2001 MARS ODYSSEY (O)
- GSSR (O)****
- MUSES-C (C), (F per MSD)
- MARS EXPRESS (C)
- MARS EXPLORATION ROVERS A & B (C)
- ROSETTA (C)
- DEEP IMPACT (C)
- MESSENGER (C)
- MARS RECONNAISSANCE ORBITER (C)
- DAWN (C)
- MARS SCOUT (F)
- MARS PREMIER/NET LANDERS (F)
- MARCONI (F)
- MARS SCIENCE LABORATORY (F)
- NEW FRONTIERS (F) (X)
- GRAVITY PROBE B (O)****
- EVN (O)****
- GBRA (O)****
- MEGA (O)****
- SIRTF (C)
- KEPLER (C)
- SIM (F)
- VOYAGERS 1 & 2 (O)
- ULYSSES (O)
- STEREO A & B (C)
- PN10-TECH (O)
- ORBITAL DEBRIS (O)
- SPACE GEODESY (O)
- DISCOVERY (F) (X)
- MIDEX (F) (X)
- NMP (F) (X)

NOTES

*~21 additional spacecraft fall under "Emergency Support Only" and are not shown.

**LEOP = Launch & Early Operations Phase; almost all DSN missions receive such support, but those listed as "LEOP" receive no other significant DSN support.

***Deep Space includes missions utilizing Earth leading and trailing orbits, since spacecraft in such orbits drift out well beyond Lagrange point distances.

****Support assumes the form of ground-based observations for mission reference ties (e.g., GP-B), VLBI co-observations, radio astronomy, solar system radar, or orbital debris.

KEY

- Structure & Evolution of Universe Theme
- Astronomical Search for Origins Theme
- Exploration of the Solar System Theme
- Sun-Earth Connection Theme
- Cross-Theme Affiliation
- Unaffiliated with Space Science Enterprise

(O) = Operating (as of 1/03)
(C) = Commitment to support, but not yet operating (as of 1/03)
(F) = Future commitment to support anticipated (as of 1/03)
(X) = Not specifically called out in Code S approved "Mission Set Database" or "Mission Set Change Log"